Streetscape Case Studies

Denver Avenue Streetscape Design Project

December 4, 2006
The following case studies were compiled as part of the Denver Avenue Streetscape Design Project in order to help inform the design process for Denver Avenue’s streetscape. The first part of this report examines in detail four successful streetscape design projects from various parts of the region and nation. These specific case studies consider specific design elements, the challenges that each streetscape design addressed, and the particular social, economic, or cultural role that each street is designed to serve. The first case study, East Main Street in Walla Walla, Washington, typifies how concerted civic investment along a failing main street can revitalize and reinvigorate a downtown economy. The NW 3rd and 4th Avenues Streetscape Project in Portland, Oregon illustrates how history and culture can be woven into the physical fabric of an historic district. The Barrack’s Row Streetscape Project in Washington, D.C. demonstrates how physical design can help rejuvenate a struggling neighborhood center. Finally, the SW 12th and Montgomery Green Street (Portland, OR) illustrates how streetscape elements can manage stormwater run-off and create ecologically sound neighborhoods.

Following these case studies are photographs of other streetscapes from across the Portland Metro area, the state of Oregon, and around the nation. These photographs are intended to provide additional examples of quality streetscape design as realized in other “main street” commercial districts.

Each of the streetscape designs presented here were crafted to address a very particular set of issues within a unique physical context. They also represent a range of project budgets and policy frameworks. While they are intended to present a range of ideas to consider for Denver Avenue, it should be noted that any streetscape design treatments and elements proposed for Denver Avenue must pass the scrutiny of the various public agencies who will be responsible for construction and continued maintenance.
East Main Street - Walla Walla, Washington

Revitalizing a Extra-Wide Right-of-Way

Main Street is the primary axis through Walla Walla’s historic downtown, and is the spine of the city’s thriving downtown retail core. Main is characterized by its historically significant buildings (including several on the National Register), many of which have been renovated recently. The right-of-way is 99’ wide – extremely wide when compared to other “main streets” around the region and the nation – and is lined with pedestrian-oriented retail and office uses.

Although highly successful now, Downtown Walla Walla witnessed a serious decline in its retail base as growth occurred at the periphery of the city during the 1980’s. The overall vacancy rate within the central business district approached 30 percent at its height. To address this loss of investment, the downtown business community formed the Downtown Walla Walla Foundation, and with the City, created the Downtown Redevelopment Plan focused on economic development for the city’s historic core. While the plan consisted of an economic restructuring element and promotional strategies for reasserting Downtown’s development appeal, it also outlined an urban design approach as a key means for luring new investment.

The cornerstone of the design strategy was a catalyst streetscape improvement project along Main Street. The original project (funded by a local improvement district (LID)) was completed in the late 1980’s, with a utility upgrade project completed in 2004. The improvements have been credited with jumpstarting several building renovation projects which followed, and in 2001, the project was recognized by the National Trust for Historic Preservation’s Great American Main Street Program.

Street trees provide shade for pedestrians, and brick furnishing zones visually separate the pedestrian sphere from vehicles.

Public art was installed at key intersections.

Brick intersection paving and special crossing treatments calm traffic while distinguishing the intersections as special places within the district.
East Main Street - Walla Walla, Washington

Crucial to the project was ensuring that streetscape improvements were compatible with the Downtown’s existing historic structures. New brick pavers were installed along the curb, and within key intersections. These unique paving treatments call out these intersections as special pedestrian zones while providing a degree of traffic calming. A coordinated collection of new street furniture was installed that included benches, bike racks, trashcans, and traditional, pedestrian-scaled streetlights.

Public art was placed on the sidewalks at key intersections. In planting street trees along Main, the designers strived to strike a balance between providing shade (crucial in Eastern Washington’s dry, hot climate) and protecting views of the historic architecture and commercial signage. The broad-canopy trees that were selected and spaced at wide intervals now help to visually narrow Main Street’s extensive right-of-way. The streetscape project also entailed installing new curbs and gutters and replacing underground utilities.

The cross-section of Main Street did not change as a result of this project. The current right-of-way measures 99’ – with 12-15’ wide sidewalks, a 3’ furnishing zone, and a single travel lane in each direction. The roadway itself feels narrower because angled parking is used on both sides of the street, with curb extensions built at intersections to shorten crossing distances for pedestrians.

Loading and unloading along Main Street on an ad hoc basis, and formal loading zones are not provided. Many buildings are served by rear access alleys, in which case deliveries are handled at the rear of the building. Delivery to buildings without alley access requires that drivers either pull into the angled parking spaces in front of the building, or parallel park along side streets. Area retailers typically arrange deliveries to occur in early morning hours so as to ensure adequate parking space for delivery trucks and to minimize traffic disruption.

Although both pedestrian and vehicular access is quite good along Main Street, one emerging issue has been parking. While the overall success of Main Street has increased dramatically over the last decade or so – retail uses are thriving and new residential structures are developing – there have been growing demands on the area’s limited parking supply. In addition to the on-street parking spaces, there are a few private parking garages, and there are discussions going on currently regarding the provision of public parking facilities in the area.

Sources:


East Main Street - Walla Walla, Washington

The new streetscape has enhanced Main Street's historic character.

Angled parking is provided in front of retail uses.

The intersection in front of the main plaza was paved to create a more pedestrian-oriented zone.

The new streetscape has enhanced Main Street's historic character.
NW 3rd and 4th Avenues - Portland, Oregon

Creating Cultural Streetscapes

NW 3rd and 4th Avenues between Burnside and Glisan Streets run through Portland’s Old Town/Chinatown neighborhood, a National Historic District, and an historically depressed area of the city. In September 2002, the Portland City Council adopted the Old Town/Chinatown 3rd & 4th Avenue Streetscape Plan, which outlined street improvements aimed at revitalizing the neighborhood.

The first phase of the project began in March 2005, and the final phase of the 3rd and 4th Avenue improvements was completed in August 2006. The Festival Streets that accompany these improvements are substantially complete, with a few final pieces of artwork schedule to arrive in early 2007.

The vision for the improvements was to strengthen the unique cultural and architectural identity of the historic district while providing a vibrant pedestrian environment for a diverse set of commercial, retail, and residential uses. The physical improvements to the streetscape were designed to reflect and promote the district’s historic and ongoing ties to Asia and Asian-American culture. The public investment was intended to initiate new private investment and redevelopment in the neighborhood by enhancing the appearance of small business storefronts, increasing pedestrian safety and comfort, and making the area more attractive for new housing, new commercial tenants, redevelopment, and tourism.

New sidewalks were constructed throughout the project. Roadway striping was adjusted on 3rd Avenue, with a bike lane replacing one auto lane. This adjustment allowed for sidewalk widening (by 2’ on each side of the street) between NW Glisan and NW Davis Streets.

The new sidewalks are paved with scored concrete, and the 4’ furnishing zone features sand-set, black granite blocks imported from China. The streetscape extends the botanical theme from the nearby Classical Chinese Garden by incorporating a large variety of flowering fruit trees into the furnishing zone. The 120 new trees replaced a smaller number of older (and often struggling) cherry trees that formerly lined the streets. The planting areas around these trees are as long as 9’ and are filled with low-level vegetation. The diversity and quantity of these plantings were chosen by adjacent property owners, who, after an initial acclimation period, will be ultimately responsible for their maintenance. While these plantings will mitigate some stormwater, the majority of stormwater run-off flows through catch basins to the City’s sewer system.

Additionally, 20 bronze plaques were designed by local designers and historians, produced and cast in China, and embedded within the sidewalk’s furnishing zone. These plaques feature botanical elements and historic vignettes related to the neighborhood’s cultural roots. Historic twin-ornamental streetlights (used here and throughout Old Town/Chinatown) are painted “Chinatown Red” to accent the neighborhood’s unique character.
NW 3rd and 4th Avenues - Portland, Oregon

The 3rd and 4th Avenue improvements complement two “Festival Streets” that were created along NW Davis and NW Flanders between 3rd and 4th. Sculptural Chinese lanterns sit atop carved granite bases at the corners of 3rd and 4th as gateways to each Festival Street. (These lanterns were commissioned by the Regional Arts and Culture Council (RACC).) The Festival Streets themselves are designed as plazas which can be closed to auto traffic for events and celebrations.

With the streetscape improvements on NW 3rd and 4th Avenues substantially complete, several questions remain about their long-term effectiveness and maintenance. The streetscape design for these streets uses a greater degree of vegetation than other comparable “downtown” or “main street” areas in Portland. The long-term resilience of these plantings given their heavily-utilized, urban setting remains a question, as does the willingness and dedication of adjacent property owners to maintain them. Also, the location and overall length of the planting strips may cause some consternation for automobile passengers, who may need to infringe upon the planting areas to get into and out of their vehicles (an activity which itself may cause further damage to the vegetation). Lastly, the sand-set granite blocks featured in the furnishing zone are a unique element within the City of Portland’s street network and may represent a maintenance issue over time. Their repair will be the responsibility of adjacent property owners.

Sources:


NW 3rd and 4th Avenues  - Portland, Oregon

Many private building owners have extended the streetscape’s theme onto their own structures.

The project provided new, coordinated street furniture, including botanically themed bicycle racks.

Scored concrete sidewalks, black granite curb strips, new plantings, and on-street parallel parking.

Public investment has led many private building owners to embellish existing building facades.
**Barracks Row - Washington, D.C.**

*An Historic Main Street Renaissance*

Barracks Row (8th Street SE) is a ¾-mile, 6-block stretch between Pennsylvania Avenue and M Street SE, and lies within the Capitol Hill Historic District of Washington, D.C. (The street is locally referred to as “Barracks Row” because it is home to historic Marine Barracks, sited there by Thomas Jefferson in 1801.) The neighborhood was Washington D.C.’s very first commercial center, and is comprised of historic one- to four-story brick commercial buildings and townhouses that date as far back as 1820. The neighborhood flourished for decades as Washington itself developed. However, following WWII, the area declined as jobs were lost in the nearby Navy Yard and suburban flight accelerated. 8th Street further deteriorated in the 1960s due to the combined negative effects of a new, raised highway over 8th Street (essentially bisecting the corridor) and the destruction that accompanied the MLK riots (1968).

In an effort to rejuvenate the area, the Barracks Row Business Alliance teamed with the National Main Street Center (a program of the National Trust for Historic Preservation) in 1999 to form a revitalization strategy. Their plan focused on economic and organizational restructuring and promotion, but also envisaged a large physical design component as a tool for economic development. In 2002, the area was selected by the District of Columbia’s Office of Economic Development to receive funding for a comprehensive streetscape improvement plan, and the $8.5 million streetscape was completed in December of 2003.

The primary goal of the Barracks Row streetscape project was to create a safe and visually appealing pedestrian environment and address transportation concerns in order to foster business and retail growth in the area.

In response to concern regarding the neighborhood’s lack of adequate parking, angled parking was created along the street to replace the existing parallel on-street parking. The new configuration has increased the overall number of parking spaces, which are short term to ensure a steady supply of parking in front of retail uses. Additionally, a one block area was converted from one-way traffic to two-way, in order to promote greater access to storefronts and increase traffic mobility.

New brick-pavers were installed within sidewalks, and key pedestrian crossings were visually enhanced with bluestone paving. A five foot plant strip was created along the curb to absorb surface runoff from sidewalks and to provide a continuous root zone for newly planted street trees. The project also provided for new globe lights, bicycle racks, and trash receptacles. Additionally, a self-guided “Barracks Row Heritage Trail” was designed into the streetscape in coordination with the D.C. Heritage Tourism Coalition to acknowledge the neighborhood’s historic status, and facade design guidelines were created simultaneously with the streetscape improvement project to protect the historic character of the corridor.
The Barrack’s Row revitalization effort has been highly successful. Since 1999, 43 new businesses have opened in the area (including business expansion through 12 new outdoor cafes), 51 facades have been restored, 198 net new jobs have been created, and 3 new traditional buildings have been constructed. Additionally, Barracks Row was recognized by the National Trust for Historic Preservation in 2005 with a Great American Main Street Award.

Sources


Photos Courtesy of Barrack’s Row Main Street and Lee and Associates.
Creating a Green Street

The SW 12th Avenue Green Street (located at Montgomery adjacent to Portland State University) utilizes a series of landscaped infiltration planters to capture and infiltrate stormwater run-off from 12th Avenue. These planters are structural, landscaped reservoirs used to collect, filter, and infiltrate stormwater run-off. This system allows pollutants to settle and filter out as the water percolates through the planter soil and infiltrates into the ground. The planters at 12th and Montgomery are designed to handle approximately 8,000 square feet of stormwater run-off.

The SW 12th and Montgomery streetscape project effectively manages street run-off while still maintaining strong pedestrian circulation and on-street parking. Built in summer 2005, this street retrofit project demonstrates how both new and existing streets in downtown or highly urbanized areas can be designed to provide direct environmental benefits and be aesthetically integrated into the urban streetscape.

The 12th Avenue Green Street project successfully disconnects street stormwater run-off from the street, manages it on-site using a landscape approach in the public right-of-way, and releases the water back to a storm sewer that drains directly into the Willamette River. Stormwater runoff from SW 12th flows downhill along the existing curb until it reaches the first of four stormwater planters.

A 12-inch curb cut channels the street runoff into the first stormwater planter. Once inside the planter, the water is allowed to collect until it reaches a depth of six inches. The landscape system within each planter allows the water to infiltrate in the soil at a rate of four inches per hour.
If a rain event is intense enough, water will exit through the planter’s second curb cut, flow back out into the street and eventually enter the next downstream stormwater planter.

Depending on how intense a particular storm is, run-off will continue its downhill “dance” from planter to planter until all of the stormwater planters are at full capacity. If and when the stormwater planters exceed their carrying capacity, the water exits the last stormwater planter and enters the conventional storm sewer.

The main challenge for retrofitting SW 12th Avenue was finding enough space for pedestrians, on-street parking, street trees, landscaping, street lighting, signage, and stormwater planters within a limited amount of space.

A 30-inch wide parking egress zone was dedicated for people to access their vehicles without infringing upon the stormwater planters. Perpendicular pathways were located between each stormwater planter so that a pedestrian would not have to walk very far to access their cars or the sidewalk.

A four-inch curb exposure at each planter indicates to the pedestrian that there is a drop in grade. Each curb cut that allows the street runoff to enter the stormwater planters has an ADA accessible grate to allow for unencumbered pedestrian flow along the parking egress zone.
Streetscape Design in Greater Portland

Vegetated planting strips and well-defined sidewalk zones (NE Fremont Street)

Facade improvements, new street trees, and recycled planters (NE Alberta Street)

Many commercial districts use off-peak times for truck loading (NE Fremont Street)

Wide sidewalks and large, well-spaced street trees (NE 28th Avenue)

Curb extensions shorten crossing distances and safety for pedestrians, while improving visibility for turning vehicles (NE Alberta Street)

Wide bike lanes along on-street parallel parking (Main Street, Troutdale)
Streetscape Design in Greater Portland

Occasional wide setbacks can create unique public spaces (N Mississippi Street)

Functional art creates a unique sense of place (Mississippi Street)

Public art installation (N Alberta Street)

Where streetscape improvements are minimal, facade improvements can work wonders to improve a main street (N Mississippi Street)

Angled parking along side streets can help increase parking supply (N Fremont Street)
Streetscape Design in Downtown Bend, Oregon

- Wide right-of ways with pedestrian bump outs, angled parking, and historic light fixtures
- Distinct sidewalk zones and well-spaced trees
- Angled parking can increase parking supply while narrowing roadways
- Unique pavers can be utilized to call out pedestrian crossings
- Bump outs shorten wide crossing distance for pedestrians and provide opportunities for public art and vegetation
Other Streetscape Designs

Wide right-of-way with two lanes of traffic and on-street parallel parking (Galena, IL)

Narrow sidewalks with paved furnishing zone and angled parking (Galena, IL)

Wide sidewalks with widely planted street trees and traditional lighting (Vancouver, WA)

Vegetated medians and bike lanes (Vancouver, WA)
Other Streetscape Designs

Sidewalk stamps highlight the neighborhood’s unique character (Boise, ID)

A very wide right-of-way with wide sidewalks, street trees, and angled parking characterize Massachusetts Avenue (Lawrence, KA)

Unique combination of concrete and brick paving (Boise, ID)

Paved corners with landscape treatments (Lawrence, KA)

Wide sidewalks with street trees and angled parking (Lawrence, KA)

Wide on-street parking is used to shorten travel lane widths (Wellesley, MA)
Other Streetscape Designs

Blade signage helps call out individual stores to pedestrians, while angled facades create unique public/private space (Grants Pass, OR)

Brick pavers can indicate not only street edges and trees, but unique storefronts and outdoor cafe seating (Grants Pass, OR)

A combination of auto-scaled and pedestrian-scaled lights can provide illumination and a feeling of safety for all users (Vancouver, BC)

Small details, like this painted fire hydrant, can add richness to a street (Grants Pass, OR)

The use of diverse paving materials can clearly define public walkways from furnishing zones and private building space (Vancouver, BC)